SEQUENCE LISTING

<110> GARABEDIAN, Michael TANEJA, Samir HITTELMAN, Adam MARKUS, Steven

<120> METHOD FOR SCREENING TRANSCRIPTIONAL COREGULATORY PROTEINS OF TRANSCR IPTION FACTORS, AND ANDROGEN RECEPTOR TRANSCRIPTIONAL COREGULATORY PROTEINS AS TARGETS FOR ANDROGEN RECEPTOR-DEPENDENT DISEASES

<130> GARABEDIAN=1.1A <140> NOT YET ASSIGNED <141> 2001-03-26 <150> 60/225.618 <151> 2000-08-15 <150> 60/191,768 <151> 2000-03-24 <160> 20

<170> PatentIn version 3.0

<210> <211> 474 <212> DNA <213> human

<400> 1

atggcgacgc cccctaagcg gcgggcggtg gaggccacgg gggagaaagt gctqcqctac 60 120 gagacettea teagtgaegt getgeagegg gaettgegaa aggtgetgga ceategagae 180 aaggtatatg aggaggtggc caaatacctt caactgagaa atgtcattga gcgactccag 240 qaaqctaaqc actcqqaqtt atatatqcag gtggatttgg gctgtaactt cttcgttgac 300 acagtagtec cagatactte acquatetat gtggccctgg gatatggttt tttcctggag ttgacactgg cagaagctct caagttcatt gatcgtaaga gctctctcct cacagagctc 360 ageaacagee teaccaagga etecatgaat ateaaageee atateeacat gttgctagag 420

474

<210> 2 157 <211> <212> PRT

<213> human

<400> 2

Met Ala Thr Pro Pro Lys Arg Arg Ala Val Glu Ala Thr Gly Glu Lys 1.0

gggettagag aactacaagg cetgeagaat tteecagaga ageeteacea ttga

Val Leu Arg Tyr Glu Thr Phe Ile Ser Asp Val Leu Gln Arg Asp Leu

Arg Lys Val Leu Asp His Arg Asp Lys Val Tyr Glu Gln Leu Ala Lys

	35					40					45				
Tyr Le	eu Glr 0	Leu	Arg	Asn	Val 55	Ile	Glu	Arg	Leu	Gln 60	Glu	Ala	Lys	His	
Ser Gl 65	lu Leu	Tyr	Met	Gln 70	Val	Asp	Leu	Gly	Cys 75	Asn	Phe	Phe	Val	Asp 80	
Thr Va	al Val	Pro	Asp 85	Thr	Ser	Arg	Ile	Tyr 90	Val	Ala	Leu	Gly	Tyr 95	Gly	
Phe Ph	he Leu	Glu 100	Leu	Thr	Leu	Ala	Glu 105	Ala	Leu	Lys	Phe	Ile 110	Asp	Arg	
Lys Se	er Ser 115		Leu	Thr	Glu	Leu 120	Ser	Asn	Ser	Leu	Thr 125	Lys	Asp	Ser	
Met As	sn Ile 30	Lys	Ala	His	Ile 135	His	Met	Leu	Leu	Glu 140	Gly	Leu	Arg	Glu	
Leu Gl 145	ln Gly	Leu	Gln	Asn 150	Phe	Pro	Glu	Lys	Pro 155	His	His				
<210> <211> <212> <213>	3 1097 DNA huma														
<400> aaatgo	3 cacaa	cccg	gacg	ga a	gtge	etet	e ega	acag	caga	teca	agget	teg	gaget	tccaga	60
cgctg	ggaca	ggcc	gaca	gc a	gacca	accc	e eg	caga	gege	ggga	acac	gac	gccc	cccgca	120
ggacad	egece	atca	gccc	gg aa	aacc	ectga	a gct	tgct	ctc	ccg	gagg	ccg	atge	ccaccc	180
gggag	ccccc	aaag	acto	ge g	gete	ccgg	g gg	cacc	gca	tact	cac	ccg	cctg	ggcctg	240
ggccc	ccgct	gcag	ggac	tg go	egee	ecga	g gc	ctca	aac	cago	egec	ccc	egec	etccgt	300
gccago	cccca	geeg	ggac	ee ea	acaa	ggca	a aga	acca	agaa	gati	gtgt	tt	gagga	atgagt	360
tgctct	tocca	ggcc	ctcc	tg g	gcgc	caaga	a ago	ecta	tgg	agc	catco	ect	aagg	ggcata	420
agccta	aggcc	ccac	ccag	tg c	ccga	ctate	g ag	ctta	agta	aca	gcca	gtg	agca	gtgaga	480
gggaad	cggag	ccgc	tatg	to go	cagt	gttc	c ago	gacc	agta	cgga	agagt	tc	ttgga	agctcc	540
agcac	gaggt	gggg	tgtg	ca ca	aggca	aaag	e te	agge	agct	gga	gcc	etg	ctga	geteee	600
tgccc	ccacc	ccaa	agcc	ag aa	agga	ggcc	c aa	gttg	cage	ccg	ggtti	gg	aggga	agtttg	660
agatga	aagcg	aatg	gate	ct g	gctt	ectg	g ac	aagc	aggc	tcg	etge	cac	tacc	tgaagg	720
gtaaad	ctgag	gcat	ctca	ag a	ctca	gatc	c aga	aaat	cga	tga	ccaa	gga	gaca	gcgagg	780
gctccc	gtgta	cttc	taag	tg c	ecct	gcaga	a tg	ggca	gagg	gat	gcat	ggg	gatg	caggtc	840
ccttg	cattt	cttg	gtat	ct c	cag	cttt	t cct	tctt	gcag	ctc	ccct	ac	cagg	ggtege	900
tttctc	cctgg	attg	caaa	tg c	eteti	cagt	t tt	ggact	cag	ctc	gaca	agc	ccct	cctcca	960
ggaagg	gcctt	ccag	gact	ta a	tcct	ctgg	g to	ctct	agct	ctga	accct	ac	aggga	actcca	1020

gateteaace tgtteeetgg aagtagggee tgeteteeat eecagtgaaa taaacatgta ttagacacct aaaaaaa 1097 <210> 4 <211> 264 <212> PRT <213> Human <400> 4 Met His Asn Pro Asp Gly Ser Ala Ser Pro Thr Ala Asp Pro Gly Ser Glu Leu Gln Thr Leu Gly Gln Ala Ala Arg Arg Pro Pro Pro Pro Arg Ala Gly His Asp Ala Pro Arg Arg Thr Arg Pro Ser Ala Arg Lys Pro Leu Ser Cys Phe Ser Arg Arg Pro Met Pro Thr Arg Glu Pro Pro Lys Thr Arg Gly Ser Arg Gly His Leu His Thr His Pro Pro Gly Pro Gly Pro Pro Leu Gln Gly Leu Ala Pro Arg Gly Leu Lys Thr Ser Ala Pro Arg Pro Pro Cys Gln Pro Gln Pro Gly Pro His Lys Ala Lys Thr Lys Lys Ile Val Phe Glu Asp Glu Leu Leu Ser Gln Ala Leu Leu Gly Ala 115 120 125 Lys Lys Pro Ile Gly Ala Ile Pro Lys Gly His Lys Pro Arg Pro His Pro Val Pro Asp Tyr Glu Leu Lys Tyr Pro Pro Val Ser Ser Glu Arg Glu Arg Ser Arg Tyr Val Ala Val Phe Gln Asp Gln Tyr Gly Glu Phe Leu Glu Leu Gln His Glu Val Gly Cys Ala Gln Ala Lys Leu Arg Gln Leu Glu Ala Leu Leu Ser Ser Leu Pro Pro Pro Gln Ser Gln Lys Glu Ala Gln Val Ala Ala Arg Val Trp Arg Glu Phe Glu Met Lys Arg Met

Asp Pro Gly Phe Leu Asp Lys Gln Ala Arg Cys His Tyr Leu Lys Gly 225 230 235 235 240

Lys Leu Arg His Leu Lys Thr Gln Ile Gln Lys Phe Asp Asp Gln Gly 245 250 255

Asp Ser Glu Gly Ser Val Tyr Phe 260

```
<210>
<211>
      517
<212>
      DNA
<213> Human
<220>
<221> misc feature
<223>
      n at position 65 is unknown.
<400> 5
gaacggcacg agggcgcgcc acgcgcggga agcggcgcg ggagcgcgcg cggcgggccg
eqeaneeqaq qqaqeeqaqe qeeeqmaeqe qeeeqaqeqq acasacqeea qaqeeqegee
                                                                     180
ccgggccgag cgcagcgcgc cggccgssyg ggccgccagg ggcgcgcgcg gcggagcgcg
                                                                     240
gggcgcgmqa aaaggggccc ggcggagacc aagggcaggc gcggcccgca agggcgccgg
qqaaqqcqcc cqqcaaqqaq qcqqacaaqc qqaqcaqqcc aacqaqacqc qcqcacccac
                                                                     300
acacqaqcqc qaqccqccac aacaccacac ccqqcccaaq qaqaacaqca cqccaacqcq
                                                                     360
ccaqycacgg cgggcacggg aggcgggcca cacacagcgg ccccgccaag gcacggcgca
                                                                     420
eggeacaagg geaccaegee agacaagega ggaggeagea egeeggaggg
                                                                     480
                                                                     517
ccgcgaccgc cggagaaaag gaacagagag cccccca
<210> 6
<211>
      189
<212>
      PRT
<213> Human
<400> 6
Glu Phe Gly Thr Arg Ala Arg Phe Thr Arg Gly Lys Ser Ala Leu Leu
Glu Arg Ala Leu Ala Arg Pro Arg Thr Glu Val Ser Leu Ser Ala Phe
Ala Leu Leu Ser Pro Ser Trp Tyr Ser Thr Ala Arg Ala Val Phe Ser
Val Ala Glu Leu Gln Ser Arg Leu Ala Ala Leu Gly Arg Gln Val Gly
Ala Arg Val Leu Asp Ala Leu Val Ala Arg Glu Lys Gly Ala Arg Arg
Glu Thr Lys Val Leu Gly Ala Leu Leu Phe Val Lys Gly Ala Val Trp
Lys Ala Leu Phe Gly Lys Glu Ala Asp Lys Leu Glu Gln Ala Asn Asp
Asp Ala Arg Thr Phe Tyr Ile Ile Glu Arg Glu Pro Leu Ile Asn Thr
Tyr Ile Ser Val Pro Lys Glu Asn Ser Thr Leu Asn Cys Ala Ser Phe
```

```
Thr Ala Gly Ile Val Glu Ala Val Leu Thr His Ser Gly Phe Pro Ala
Lys Val Thr Ala His Trp His Lys Gly Thr Thr Leu Met Ile Lys Phe
Glu Glu Ala Val Ile Ala Arg Asp Arg Leu Glu Gly Arg
                                185
            180
<210>
      7
<211>
      126
<212>
      DNA
<213> Human
<400> 7
gaattoggca cgaggotcaa gooctaegtg agotacotcg cocctgagag cgaggagacg
                                                                      60
cccctgacgg ccgcgcagct cttcagcaag ccgttggcgc cttgccatcg aaaaggactt
                                                                      126
caagga
<210>
       8
<211>
      42
<212>
       PRT
<213>
      Human
<400> 8
Glu Phe Gly Thr Arg Leu Lys Pro Tyr Val Ser Tyr Leu Ala Pro Glu
Ser Glu Glu Thr Pro Leu Thr Ala Ala Gln Leu Phe Ser Lys Pro Leu
Ala Pro Cys His Arg Lys Gly Leu Gln Gly
<210>
       9
<211>
       678
<212>
       DNA
<213>
      Human
<220>
<221> misc feature
<223> n at position 651 is unknown.
<400> 9
gaatteggea egaggattea ttgeececae aatcetagge etaccegeeg cagtactgat
                                                                       60
cattetattt cecectetat tgatececae etecaaatat eteateaaca acegaetaat
                                                                     120
                                                                     180
caccacccaa caatgactaa tcaaactaac ctcaaaacaa atgataacca tacacaacac
                                                                     240
taaaqqacga acctgatctc ttatactagt atccttaatc atttttattg ccacaactaa
cctcctcqqa ctcctqcctc actcatttac accaaccacc caactatcta taaacctaqc
                                                                     300
catggccatc cccttatgag cgggcgcagt gattataggc tttcgctcta agattaaaaa
                                                                      360
                                                                      420
tgccctagcc cacttcttac cacaaggcac acctacaccc cttatcccca tactagttat
```

tategaaace ateagectae teatteaace aatagecetg geegtaegee taacegetaa 480
cattactgea ggeeacetae teatgeacet aattggaage geeacectag caatateaac 540
cattaacett cetetacacet tateatette acaattetaa ttetactgae tateetagaa 600
ateggetgteg cettaateca ageetaegtt tteacactte tagtaageet ntactgnaeg 660
acaacacata aaaaaaaa 678

<210> 10 <211> 60 <212> PRT <213> Human

<400> 10

Glu Phe Gly Thr Arg Ile His Cys Pro His Asn Pro Arg Pro Thr Arg 1 10 15

Arg Ser Thr Asp His Ser Ile Ser Pro Ser Ile Asp Pro His Leu Gln 20 25 30

Ile Ser His Gln Gln Pro Thr Asn His His Pro Thr Met Thr Asn Gln $35 \ \ 40 \ \ 45$

Thr Asn Leu Lys Thr Asn Asp Asn His Thr Gln His 50 60

<210> 11 <211> 1918 <212> DNA

<213> Human

<400> 11
gaattccaat gtggtaaagt cttcgctcaa acatcacaac ttgcaaggca ttggagagtt
catactggag aaaaacctta caagtgtaat gactgtggca gagcctttag tgatcgttca
agcctaactt ttcatcaggc aatacatact ggagagaaac cttacaaatg tcatggagag
ggcaaggttt ttaggcacaa ttcatacctt gcaactcatc ggcgaattca tactggagag
aaaccttaca agtgtaatga gtgtgggaaa gcctttagta tgcattcaaa cctaactacc
cataaggtca tccatactgg agagaagcct tacaaatgta atcaatgtgg caaggtcttc
actcagaact cacaccttgc aaatcataca aggactcaca ccggagagaa accttaccga
tgcaatgagt gtgggaaagc cttcagtgtt cgtcaagcc taaccaccca tcaggcaatc
catactggga aaaaacctta caaatgtaat gaatgtggca aggtctttac tcaaaatgt
cacctggcaa atcaccgaa aattcatact ggggagaaac cttacaggtg tacagagtgt
gggaaagcct ttagggtaag atcaagcta actacccaa tggcaatcc cactgggaaa
aaggttaca aatgtaatga gtgtggcaag gtcttcaggc agagttcaaa tcttgcaagt
catcacaqaa tgcataccag aaagaaacct tacaaatgqa tgtgdtgaag tcattaggta
catcacaqaa tgcataccag agagaaacct tacaaatgqa tgtgdtgaag tcattaggta
catcacaqaa tgcataccag agagaaacct tacaaatgqa tgtgdtgaag tcattaggta

60

120

180

300

360

420

480 540

600 660

720

780

840 caattcactc ctttcacatc agttaatttc attcttgaca gaatccttac aaatgtagtg 900 acagtagcca atccctcatg agttqaagca ttaatagata tgagaggcca taagcaagag 960 acatcatgta aacatatgtg gcagaggtc tatccaggcc tcgcaggtta ctaggcatca agatttatat etttgatgaa acgaaacaaa tgtaatatge ateetgagge cattacccag 1080 tqaccqatqq taaqtqaqqa ttcctaqqaq qaataacagt ctctggtttc cctgtttgcc 1140 tttgatatta tacactgtag aatactcaca agtccaaata tgctaaaaat tatatatttt 1200 taactcacat acqaaaaqqt tqcaqqatat ttgtaggcag tcagttacct tcaccttatg aaatqtttca ctqaqttatt tqaqqttttt tqqaaaqcct actattgcgt ttcaatgtga 1260 actttgaaat cttattgtgc atccttacac accttccatg gtgctttctt ggaaagatca 1320 1380 ttqqqatqqa aqqatcattq attqqqtqaa gatcattgat taggtgaagg attatttcta tecaatttgt gaagaaggag gaetttgett ttaaaattaa gtateatetg aattageatt 1440 tgggagtggc gaaaaacaat gtaaaactat gatgtcactc accattctga taatgttcag 1560 qqtqcctttc tcctaccaqq aqaqtactqt qqcttaqaqg aaagaaatgg tctatcaact 1620 qaacatqaaa tqqaqcaqqc caaqacctta qqacattqqq atttttqtgg gaggagagta ataggtaatt agacactgat tgtgtggtag aaatactgca ggggaaaagg tcgccctctt 1680 atgcatcaaa gagcaatacc tgttgtttag caaagagtga tgaaaaattg atcttgtttt 1740 qaaattgaaq aqaqaqqcca qqcqcqqtqq ctcacacctg taatcccaqc actttqqqaq 1800 1860 gctgaggcag gtggatcacc tgaggtcggg agttcgagac cagcctgacc aacatggaga 1918 aaccccaatt qtactaaaaa tacaaaatta qccqqqcqtq qtqqcaqqtq cqqaattc

<210> 12 <211> 252 <212> PRT

<213> Human

<400> 12

His Thr Gly Glu Lys Pro Tyr Lys Cys His Glu Cys Gly Lys Val Phe

Arg His Asn Ser Tyr Leu Ala Thr His Arg Arg Ile His Thr Gly Glu

Lys Pro Tyr Lys Cys Asn Glu Cys Gly Lys Ala Phe Ser Met His Ser 85 90 95 Asn Leu Thr Thr His Lys Val Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Asn Gln Cys Gly Lys Val Phe Thr Gln Asn Ser His Leu Ala Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Asn Glu Cys Gly Lys Ala Phe Ser Val Arg Ser Ser Leu Thr Thr His Gln Ala Ile His Thr Gly Lys Lys Pro Tyr Lys Cys Asn Glu Cys Gly Lys Val Phe Thr Gln Asn Ala His Leu Ala Asn His Arg Arg Ile His Thr Gly Glu 185 Lys Pro Tyr Arg Cys Thr Glu Cys Gly Lys Ala Phe Arg Val Arg Ser Ser Leu Thr Thr His Met Ala Ile His Thr Gly Glu Lys Arg Tyr Lys Cys Asn Glu Cys Gly Lys Val Phe Arg Gln Ser Ser Asn Leu Ala Ser His His Arg Met His Thr Gly Glu Lys Pro Tyr Lys <210> 13 <211> 8588 <212> DNA <213> Human <400> 13 egeggeeega gegeetettt tegggattaa aagegeegee ageteeegee geegeegeeg 60 tegecageag egeegetgea geegeegeeg eeggagaage aacegetggg eggtgagate cccctagaca tgcqqctcqq qqqcqqqcaq ctqqtqtcag aggagctgat gaacctgggc 180 gagagettea tecagaceaa egaceegteg etgaagetet tecagtgege egtetgeaac 240 300 aagttcacga cggacaacct ggacatgctg ggcctgcaca tgaacgtgga gcgcagcctg 360 toggaggacg agtggaaggc ggtgatgggg gactcatacc agtgcaagct ctgccgctac 420 aacacccaqc tcaaqqccaa cttccaqctq cactqcaaqa caqacaaqca cqtqcaqaaq taccagetgg tggcccacat caaggagggc ggcaaggcca acgagtggag gctcaagtgt 480 540 qtqqccatcq qcaaccccqt qcacctcaaq tqcaacqcct qtqactacta caccaacagc ctggagaage tgeggetgea caeggteaac tecaggeacg aggeeageet gaagttgtac 600 660 aaqcacctqc aqcaqcatqa qaqtqqtqta qaaqqtqaqa gctgctacta ccactgcgtt 720 ctgtgcaact actccaccaa ggccaagctc aacctcatcc agcatgtgcg ctccatgaag

780

caccagegaa gegagageet gegaaagetg cageggetge agaagggeet tecagaggag

gacgaggacc tggggcagat cttcaccatc cgcaggtgcc cctccacgga cccagaagaa 840 gccattgaag atgttgaagg acccagtgaa acagctgctg atccagagga gcttgctaag 900 960 qaccaaqaqq goggagcatc gtccagccaa gcagagaagg agetgacaga ttctcctgca acctccaaac gcatctcctt cccaggtagc tcagagtctc ccctctctc gaagcgacca 1020 1080 aaaacagctg aggagatcaa accggagcag atgtaccagt gtccctactg caagtacagt 1140 aatgoogatg toaacoggot cogggtgoat gooatgacgo agcaeteggt goaaccoatg 1200 cttcgctgcc ccctgtgcca ggacatgctc aacaacaaga tccacctcca gctgcacctc acceaectee acagegtggc acctgactge gtggagaage teattatgac ggtgaccace 1260 1320 cetgagatgg tgatgccaag cagcatgttc ctcccagcag ctgttccaga tcgagatggg 1380 aattocaatt tggaagaggo aggaaagcag cotgaaacot cagaggatot gggaaagaac 1440 atcttgccat ccgcaagcac agagcaaagc ggagatttga aaccatcccc tgctgaccca 1500 ggetetgtga gagaagaete aggetteate tgetggaaga aggggtgeaa ceaggtttte aaaacttctg ctgcccttca gacgcatttt aatgaagtgc atgccaagag gcctcagctg 1560 1620 ccggtgtcag atcgccatgt gtacaagtac cgctgtaatc agtgtagcct ggccttcaag accattgaaa agttgcagct ccattctcag taccatgtgå tcagagctgc caccatgtgc 1680 tgtctttgtc agcgcagttt ccgaactttc caggctctga agaagcacct tgagacaagc 1740 1800 cacctggagc tgagtgaggc tgacatccaa cagetttatg gtggcctgct ggccaatggg 1860 gaceteetgg caatgggaga ecceaetetg getgaggace ataccataat tgttgaggaa 1920 qacaaqqaqq aaqaqatqa cttqqaaqat aaacaqaqcc caacqqqcaq tqactctqqq tcagtacaag aagactcggg ctcagagcca aagagagctc tgcctttcag aaaaggtccc 1980 2040 aattttacta tggaaaagtt cctagaccct tctcgccctt acaagtgtac cgtctgcaag gaatetttea eteaaaagaa tateetgeta gtacaetaca attetgtete eeacetgeat 2100 2160 aagttaaaga gagcccttca agaatcagca accggtcagc cagaacccac cagcagccca gacaacaaac cttttaagtg taacacttgt aatgtggcct acagccagag ttccactctg 2280 gagatecata tgaggtetgt gttacateaa accaaggeec gggcagecaa getggagget 2340 gcaagtggca gcagcaatgg gactgggaac agcagcagta tttccttgag ctcctccacg ccaagtcctg tgagcaccag tggcagtaac acetttacca cctccaatcc aagcagtgct 2400 2460 ggcattgctc caagctctaa cttactaagc caagtgccca ctgagagtgt agggatgcca cccctgggga atcctattgg tgccaacatt gcttcccctt cagagcccaa agaggccaat 2520 cggaagaaac tggcagatat gattgcatcc aggcagcagc aacaacagca gcagcaacag 2580 caacaacaac aacaacaaca acaacaacaa gcacaaacgc tggcccaggc ccaggctcaa 2640 2700 gttcaagctc acctgcagca ggagctgcag caacaggctg ccctgatcca gtctcagctg

tttaacccca ccctccttcc tcacttcccc atgacaactg agaccctgct gcaactacag 2760 2820 cagcagcage accteetett ceetttetac atceccagtg etgagtteca gettaaccce qaqqtqaqct tqccaqtqac caqtqqqqca ctqacactqa ctqqqacaqq cccaqqcctq 2880 etggaagate tgaaggetea ggtteaggte ceacageaga gecateagea gatettgeeg 2940 3000 cagcagcage agaaccaact ctctatagce cagagtcact ctgccctcct tcagccaage cagcaccccg aaaagaagaa caaattggtc atcaaagaaa aggaaaaaga aagccagaga 3060 3120 gagagggaca gcgccgaggg gggagagggc aacaccggtc cgaaggaaac actgccagat qccttqaaqq ccaaaqaqaa qaaaqaqttq qcaccaqqqq qtqqttctqa qccttccatq 3180 etecetecae geattgette agatgecaga gggaaegeea eeaaggeeet getggagaae 3240 3300 tttggctttg agttggtcat ccaqtataat gagaacaagc agaaggtgca gaaaaagaat gggaagactg accagggaga gaacctggaa aagctcgagt gtgactcctg cggcaagttg 3360 ttttccaaca tcttgatttt aaagagtcat caagagcacg ttcatcagaa ttactttcct 3420 ttcaaacage tegagaggtt tgccaaacag tacagagace actaegataa actgtaccca 3480 ctgaggeecc agaccecaga gccaccacca cctccccctc caccccctcc acccccactt 3540 3600 coggoagege egecteagee ggegteeaca ceagecatee eegcateage eccacecate acctcaccta caattgcacc ggcccagcca tcagtgcege tcacccagct ctccatgceg 3660 atggagetge ceatettete geogetgatg atgeagaega tgeogetgea gaeettgeog 3720 getcagetac coccgeaget gggacetgtg gageetetge etgeggacet ggeccaacte 3780 taccagcate ageteaatee aaccetgete cagcagcaga acaagaggee tegeaccagg 3840 atcacagatg atcagetcog agtottgegg caatattttg acattaacaa etcececagt 3900 qaaqaqcaaa taaaaqaqat qqcaqacaaq tccqqqttqc cccaqaaaqt qatcaaqcac 3960 tggttcagga acactetett caaagagagg cagegtaaca aggaeteeee ttacaactte 4020 agtaatcete etatcaccag cetggaggag ctcaagattg actcecggce ceettegeeg 4080 gaacctccaa agcaggagta ctggggaagc aagaggtctt caagaacaag gtttacggac 4140 4200 taccagetga gggtettaca ggaettette gatgecaatg ettacccaaa ggatgatgaa tttgagcaac tctctaattt actgaacctt ccaacccgag tgatagtggt gtggtttcag 4260 aatqcccqac aqaaqqccaq qaaqaattat qaqaatcaqq qaqaqqcaa aqatqqaqaq 4320 4380 cggcgtgagc ttacaaatga tagatacatt cgaacaagca acttgaacta ccagtgcaaa aaatqtagcc tqqtqtttca qcqcatcttt qatctcatca aqcaccaqaa qaaqctqtqt 4440 tacaaggatg aggatgagga ggggcaggac gacagccaaa atgaggattc catggatgcc 4500

4560

atggaaatec tgacgeetac cageteatec tgeagtacec egatgeeete acaggettac

4620 agogococag caccatcago caataataca gottootoog otttottgca gottacagog 4680 qaqqctqaqq aactqqccac cttcaattca aaaacagagg caggcgatga gaaaccaaag 4740 ctqqcqqaaq ctcccaqtqc acaqccaaac Caaacccaaq aaaaqcaaqq acaaccaaaq ccagagetge ageageaaga gcagecegag cagaagacea acaeteecea gcagaagete 4800 4860 ceccagetqq tqtccctqcc ttcqttqcca caqcctcctc cacaaqcgcc ccctccacaq 4920 tgccccttac cccagtcgag ccccagtcct tcccagctct cccacctgcc cctcaagccc 4980 ctccacacat caactcctca acagetegca aacctacete etcagetaat eccetaceag tgtgaccagt gtaagttggc atttccgtca tttgagcact ggcaggagca tcagcagctc 5040 cactteetga gegegeagaa ceagtteate cacceccagt ttttqqacaq qtccctqqat 5100 5160 atgcctttca tqctctttqa tcccaqtaac ccactcctgg ccagccagct gctctctggg 5220 gocatacete agattecage aageteagee actteteett caactecaac etecacaatg aacactotca agaqqaaqot qqaqqaaaaq qooaqtqcaa qooctqqoqa aaacqacaqt 5280 qqqacaqqaq qaqaaqaqcc tcaqaqagac aagegtttga gaacaaccat cacaccggaa 5340 5400 caactaqaaa ttctctacca qaaqtatcta ctqqattcca atccgactcg aaagatgttg gateacattg cacacgaggt gggettgaag aaacgtgtgg tacaagtetg gtttcagaac 5460 acceqagete gggaaaggaa aggacagtte egggetgtag geccagegea ggeccacagg 5520 5580 agatqccctt tttqcaqaqc qctcttcaaa qccaaqactg ctcttgaggc tcatatccgg 5640 toccgtcact ggcatgaagc caagagagct ggctacaacc taactctgtc tgcgatgetc ttagactgtq atgggggact ccagatgaaa ggagatattt ttgacggaac tagcttttcc 5700 cacctacece caagcagtag tgatggtcag ggtgtocccc teteacetgt gagtaaaace 5760 5820 atggaattgt cacccagaac tettetaage eetteeteea ttaaggtgga agggattgaa qactttqaaa qccctccat qtcctcaqtt aatctaaact ttqaccaaac taagctggac 5880 aacqatqact qttcctctqt caacacaqca atcacaqata ccacaactqq aqacqaqqqc 5940 aacgcagata acgacagtgc aacgggaata gcaactgaaa ccaaatcctc ttctgcaccc 6000 6060 aacgaaqqqt tqaccaaaqc qqccatqatq qcaatqtctq agtatgaaqa tcggttgtca tetggtetgg teagecegge eeegagettt tatageaagg aatatgacaa tgaaggtaca 6120 6180 gtggactaca gtgaaacctc aagccttgca gatccctgct ccccgagtcc tggtgcgagt ggatctgcag qcaaatctqq tqacaqcqqq qatcqqcctq qqcaqaaacq ttttcgcact 6240 caaatqacca atctqcaqct qaaqqtcctc aaqtcatqct ttaatqacta caqqacaccc 6300 actatgctag aatgtgaggt cctgggcaat gacattggac tgccaaagag agtcgttcag 6360 6420 gtctggttcc agaatgcccg qqcaaaaqaa aaqaagtcca agttaagcat qqccaaqcat tttggtataa accaaacqag ttatgaqqqa cccaaaacaq agtgcacttt gtgtgqcatc 6480

6540 aaqtacaqcq ctcqqctqtc tqtacqtqac catatctttt cccaacagca tatctccaaa gttaaagaca ccattggaag ccagctggac aaggagaaag aatactttga cccagccacc 6600 6660 gtacgtcagt tgatggctca acaagagttg gaccggatta aaaaggccaa cgaggtcctt qqactqqcaq ctcaqcaqca aqqqatqttt qacaacaccc ctcttcaggc ccttaacctt 6720 cctacagcat atccagcgct ccagggcatt cctcctgtgt tgctcccggg cctcaacagc 6780 coctecttgc caggetttac tocatecaac acagetttaa egteteetaa geogaacttg 6840 6900 atgqqtctqc ccaqcacaac tqttccttcc cctqqcctcc ccacttctqq attaccaaat 6960 aaaccqtcct caqcqtcqct gagctcccca accccagcac aagccacgat ggcgatgggc 7020 cottaqcaac cocccaqca qcaqcaqcaq caqcaqcaac cacaggtgca gcagcotocc cogcogocag cagocoagoo gocacocaca coacagotoo cactgoaaca goagoagoaa 7080 cgcaaggaca aagacagtga gaaagtaaag gagaaggaaa aggcacacaa agggaaaggg 7140 gaacccctqc ctqtccccaa qaaqqaqaaa qqaqaqqccc ccacqqcaac tqcaqccacq 7200 atoteagece egetgeceae catggagtat geggtagace etgeacaget geaggecetg 7260 caggoogogt tgacttogga coccacagoa ttgotcacaa gocagttoot toottacttt 7320 7380 gtaccagget ttteteetta ttatgeteee cagateeetg gegeeetgea gagegggtae 7440 ctgcagccta tgtatggcat ggaaggcctg ttcccctaca gccctgcact gtcgcaggcc ctgatggggc tgtccccagg ctccctactg cagcagtacc agcaatacca gcagagtctg 7500 7560 caggaggcaa ttcagcagca gcagcagcaa aaagtgcagc agcagcagcc caaagcaagc caaaccccaq tooccccqq qqctccttcc ccaqacaaaq accctqccaa agaatccccc 7620 7680 aaaccaqaaq aacaqaaaaa cacccccqt qaqqtqtccc ccctcctqcc qaaactccct gaagagccag aagcagaaag caaaagtgcg gactccctct acgacccctt cattgttcca 7740 7800 aaggtgcagt acaagttggt ctgccgcaag tgccaggcgg gcttcagcga cgaggaggca gogaggagec acctgaagte cetetgette tteggecagt etgtggtgaa cetgeaagag 7860 atggtgcttc acgtccccac cggcggcggc ggcggtggca gtggcggcgg cggcggcggt 7920 7980 ggcggcggcg gcggcggcg cggcggcggc tcgtaccact gcctggcgtg cgagagcgcg ctctgtgggg aggaagetet gagteaacat etegagtegg eettgeacaa acacagaaca 8040 atcacqaqaq caqcaaqaaa cqccaaaqaq caccctaqtt tattacctca ctctqcctqc 8100 8160 tteccegate etagcacege atetaceteg cagtetgeeg etcaetcaaa egacageece cotteeccept eggeogeoge ecectectee getteeccee acgeetecag gaagtettgg 8220 8280 cogcaagtgg totocogggc ttoggcagcg aagccccctt cttttcctcc tctctcctca 8340 tcttcaacgg ttacctcaag ttcatgcagc acctcagggg ttcagccctc gatgccaaca

gacgactatt cggaggagtc tgacacggat ctcagccaaa agtccgacgg accggcgagc 8400 ccggtggagg gtcccaaaga ccccagctgc cccaaggaca gtggtctgac cagtgtagga 8460 acggacacct tcagattgta agctttgaag atgacaata caaacaaatg aatttaaata 8520 caaaaaattaa taacaaacca atttcaaaaa tagactaact gcaattccaa agcttctaac 8580 caaaaaaacc

<210> 14 <211> 2783

<212> PRT <213> Human

<400> 14

Met Arg Leu Gly Gly Gly Gln Leu Val Ser Glu Glu Leu Met As
n Leu 1 $$ 5 $$ 10 $$ 15

Gly Glu Ser Phe Ile Gln Thr Asn Asp Pro Ser Leu Lys Leu Phe Gln $20 \ \ 25 \ \ 30$

Leu His Met Asn Val Glu Arg Ser Leu Ser Glu Asp Glu Trp Lys Ala
55 60
60
60
60
60
70
70
75
80

65 70 75 80

Leu Lys Ala Asn Phe Gln Leu His Cys Lys Thr Asp Lys His Val Gln
95 96 97

Lys Tyr Gln Leu Val Ala His Ile Lys Glu Gly Gly Lys Ala Asn Glu 100 105 110

Trp Arg Leu Lys Cys Val Ala Ile Gly Asn Pro Val His Leu Lys Cys 115 120 125

Asn Ala Cys Asp Tyr Tyr Thr Asn Ser Leu Glu Lys Leu Arg Leu His 130 140

Thr Val Asn Ser Arg His Glu Ala Ser Leu Lys Leu Tyr Lys His Leu 145 \$150\$

Gln Gln His Glu Ser Gly Val Glu Gly Glu Ser Cys Tyr Tyr His Cys 165 170 175

Val Leu Cys Asn Tyr Ser Thr Lys Ala Lys Leu Asn Leu Ile Gln His 180 185 190

Val Arg Ser Met Lys His Gln Arg Ser Glu Ser Leu Arg Lys Leu Gln 195 200 205

Phe Thr Ile Arg Arg Cys Pro Ser Thr Asp Pro Glu Glu Ala Ile Glu 225 230 235 240

Asp Val Glu Gly Pro Ser Glu Thr Ala Ala Asp Pro Glu Glu Leu Ala Lys Asp Gln Glu Gly Gly Ala Ser Ser Ser Gln Ala Glu Lys Glu Leu Thr Asp Ser Pro Ala Thr Ser Lys Arg Ile Ser Phe Pro Gly Ser Ser Glu Ser Pro Leu Ser Ser Lys Arg Pro Lys Thr Ala Glu Glu Ile Lys Pro Glu Gln Met Tyr Gln Cys Pro Tyr Cys Lys Tyr Ser Asn Ala Asp Val Asn Arg Leu Arg Val His Ala Met Thr Gln His Ser Val Gln Pro Met Leu Arg Cys Pro Leu Cys Gln Asp Met Leu Asn Asn Lys Ile His 345 Leu Gln Leu His Leu Thr His Leu His Ser Val Ala Pro Asp Cys Val Glu Lys Leu Ile Met Thr Val Thr Thr Pro Glu Met Val Met Pro Ser 375 Ser Met Phe Leu Pro Ala Ala Val Pro Asp Arg Asp Gly Asn Ser Asn Leu Glu Glu Ala Gly Lys Gln Pro Glu Thr Ser Glu Asp Leu Gly Lys Asn Ile Leu Pro Ser Ala Ser Thr Glu Gln Ser Gly Asp Leu Lys Pro 425 Ser Pro Ala Asp Pro Gly Ser Val Arg Glu Asp Ser Gly Phe Ile Cys Trp Lys Lys Gly Cys Asn Gln Val Phe Lys Thr Ser Ala Ala Leu Gln Thr His Phe Asn Glu Val His Ala Lys Arg Pro Gln Leu Pro Val Ser Asp Arg His Val Tyr Lys Tyr Arg Cys Asn Gln Cys Ser Leu Ala Phe Lys Thr Ile Glu Lys Leu Gln Leu His Ser Gln Tyr His Val Ile Arg Ala Ala Thr Met Cys Cys Leu Cys Gln Arg Ser Phe Arg Thr Phe Gln Ala Leu Lys Lys His Leu Glu Thr Ser His Leu Glu Leu Ser Glu Ala Asp Ile Gln Gln Leu Tyr Gly Gly Leu Leu Ala Asn Gly Asp Leu Leu Ala Met Gly Asp Pro Thr Leu Ala Glu Asp His Thr Ile Ile Val Glu

Glu Asp Lys Glu Glu Glu Ser Asp Leu Glu Asp Lys Gln Ser Pro Thr Gly Ser Asp Ser Gly Ser Val Gln Glu Asp Ser Gly Ser Glu Pro Lys Arg Ala Leu Pro Phe Arg Lys Gly Pro Asn Phe Thr Met Glu Lys Phe Leu Asp Pro Ser Arg Pro Tyr Lys Cys Thr Val Cys Lys Glu Ser Phe Thr Gln Lys Asn Ile Leu Leu Val His Tyr Asn Ser Val Ser His Leu His Lys Leu Lys Arg Ala Leu Gln Glu Ser Ala Thr Gly Gln Pro Glu Pro Thr Ser Ser Pro Asp Asn Lys Pro Phe Lys Cys Asn Thr Cys Asn Val Ala Tyr Ser Gln Ser Ser Thr Leu Glu Ile His Met Arg Ser Val Leu His Gln Thr Lys Ala Arg Ala Ala Lys Leu Glu Ala Ala Ser Gly Ser Ser Asn Gly Thr Gly Asn Ser Ser Ser Ile Ser Leu Ser Ser Ser Thr Pro Ser Pro Val Ser Thr Ser Gly Ser Asn Thr Phe Thr Thr Ser Asn Pro Ser Ser Ala Gly Ile Ala Pro Ser Ser Asn Leu Leu Ser Gln Val Pro Thr Glu Ser Val Gly Met Pro Pro Leu Gly Asn Pro Ile Gly Ala Asn Ile Ala Ser Pro Ser Glu Pro Lys Glu Ala Asn Arg Lys Lys Leu Ala Asp Met Ile Ala Ser Arg Gln Gln Gln Gln Gln Gln Gln Gln Gln Ala Gln Ala Gln Val Gln Ala His Leu Gln Gln Glu Leu Gln Gln 840 Gln Ala Ala Leu Ile Gln Ser Gln Leu Phe Asn Pro Thr Leu Leu Pro His Phe Pro Met Thr Thr Glu Thr Leu Leu Gln Leu Gln Gln Gln Gln His Leu Leu Phe Pro Phe Tyr Ile Pro Ser Ala Glu Phe Gln Leu Asn Pro Glu Val Ser Leu Pro Val Thr Ser Gly Ala Leu Thr Leu Thr Gly

- Thr Gly Pro Gly Leu Leu Glu Asp Leu Lys Ala Gln Val Gln Val Pro 915 920 925
- Gln Gln Ser His Gln Gln Ile Leu Pro Gln Gln Gln Gln Asn Gln Leu 930 935 940
- Ser Ile Ala Gln Ser His Ser Ala Leu Leu Gln Pro Ser Gln His Pro 945 950 955 960
- Glu Lys Lys Asn Lys Leu Val Ile Lys Glu Lys Glu Lys Glu Ser Gln 965 970 975
- Arg Glu Arg Asp Ser Ala Glu Gly Gly Glu Gly Asn Thr Gly Pro Lys 980 985 990
- Glu Thr Leu Pro Asp Ala Leu Lys Ala Lys Glu Lys Lys Glu Leu Ala 995 $1000\,$ $1005\,$
- Pro Gly Gly Gly Ser Glu Pro Ser Met Leu Pro Pro Arg Ile Ala 1010 1020
- Ser Asp Ala Arg Gly Asn Ala Thr Lys Ala Leu Leu Glu Asn Phe 1025 1030 1035
- Gly Phe Glu Leu Val Ile Gln Tyr Asn Glu Asn Lys Gln Lys Val
- Gln Lys Lys Asn Gly Lys Thr Asp Gln Gly Glu Asn Leu Glu Lys 1055 1060 1065
- Leu Glu Cys Asp Ser Cys Gly Lys Leu Phe Ser Asn Ile Leu Ile 1070 1080
- Leu Lys Ser His Gln Glu His Val His Gln Asn Tyr Phe Pro Phe 1085 1090 1095
- Lys Leu Tyr Pro Leu Arg Pro Gln Thr Pro Glu Pro Pro Pro Pro 1115 $$ 1120 $$ 1125
- Pro Pro Pro Pro Pro Pro Pro Pro Leu Pro Ala Ala Pro Pro Gln 1130 1135
- Pro Ala Ser Thr Pro Ala Ile Pro Ala Ser Ala Pro Pro Ile Thr $1145 \ \ 1150 \ \ 1155$
- Ser Pro Thr Ile Ala Pro Ala Gln Pro Ser Val Pro Leu Thr Gln 1160 1165 1170
- Leu Ser Met Pro Met Glu Leu Pro Ile Phe Ser Pro Leu Met Met 1175 1180 1185
- Gln Thr Met Pro Leu Gln Thr Leu Pro Ala Gln Leu Pro Pro Gln 1190 $$1195\$
- Leu Gly Pro Val Glu Pro Leu Pro Ala Asp Leu Ala Gln Leu Tyr 1205 1210 1215
- Gln His Gln Leu Asn Pro Thr Leu Leu Gln Gln Gln Asn Lys Arg 1220 1230

Pro Arg Thr Arg Ile Thr Asp Asp Gln Leu Arg Val Leu Arg Gln 1240 Tyr Phe Asp Ile Asn Asn Ser Pro Ser Glu Glu Gln Ile Lys Glu 1255 Met Ala Asp Lys Ser Gly Leu Pro Gln Lys Val Ile Lys His Trp 1270 Phe Arg Asn Thr Leu Phe Lys Glu Arg Gln Arg Asn Lys Asp Ser Pro Tyr Asn Phe Ser Asn Pro Pro Ile Thr Ser Leu Glu Glu Leu 1300 Lys Ile Asp Ser Arg Pro Pro Ser Pro Glu Pro Pro Lys Gln Glu 1310 Tyr Trp Gly Ser Lys Arg Ser Ser Arg Thr Arg Phe Thr Asp Tyr 1330 Gln Leu Arg Val Leu Gln Asp Phe Phe Asp Ala Asn Ala Tyr Pro 1340 Lys Asp Asp Glu Phe Glu Gln Leu Ser Asn Leu Leu Asn Leu Pro 1360 Thr Arg Val Ile Val Val Trp Phe Gln Asn Ala Arg Gln Lys Ala Arg Lys Asn Tyr Glu Asn Gln Gly Glu Gly Lys Asp Gly Glu Arg Arg Glu Leu Thr Asn Asp Arg Tyr Ile Arg Thr Ser Asn Leu Asn 1400 1405 1410 1400 Tyr Gln Cys Lys Lys Cys Ser Leu Val Phe Gln Arg Ile Phe Asp 1415 1420 Leu Ile Lys His Gln Lys Lys Leu Cys Tyr Lys Asp Glu Asp Glu Glu Gly Gln Asp Asp Ser Gln Asn Glu Asp Ser Met Asp Ala Met 1445 1450 1455 Glu Ile Leu Thr Pro Thr Ser Ser Ser Cys Ser Thr Pro Met Pro Ser Gln Ala Tyr Ser Ala Pro Ala Pro Ser Ala Asn Asn Thr Ala 1480 1485 Ser Ser Ala Phe Leu Gln Leu Thr Ala Glu Ala Glu Glu Leu Ala 1490 Thr Phe Asn Ser Lys Thr Glu Ala Gly Asp Glu Lys Pro Lys Leu 1510 Ala Glu Ala Pro Ser Ala Gln Pro Asn Gln Thr Gln Glu Lys Gln 1520 1525 1530 Gly Gln Pro Lys Pro Glu Leu Gln Gln Gln Glu Gln Pro Glu Gln 2 . .

Lys	Thr 1550	Asn	Thr	Pro	Gln	Gln 1555	Lys	Leu	Pro	Gln	Leu 1560	Val	Şer	Leu
Pro	Ser 1565	Leu	Pro	Gln	Pro	Pro 1570	Pro	Gln	Ala	Pro	Pro 1575	Pro	Gln	Cys
Pro	Leu 1580	Pro	Gln	Ser	Ser	Pro 1585	Ser	Pro	Ser	Gln	Leu 1590	Ser	His	Leu
Pro	Leu 1595	Lys	Pro	Leu	His	Thr 1600	Ser	Thr	Pro	Gln	Gln 1605	Leu	Ala	Asn
Leu	Pro 1610	Pro	Gln	Leu	Ile	Pro 1615	Tyr	Gln	Cys	Asp	Gln 1620	Cys	Lys	Leu
Ala	Phe 1625	Pro	Ser	Phe	Glu	His 1630	Trp	Gln	Glu	His	Gln 1635	Gln	Leu	His
Phe	Leu 1640	Ser	Ala	Gln	Asn	Gln 1645	Phe	Ile	His	Pro	Gln 1650	Phe	Leu	Asp
Arg	Ser 1655	Leu	Asp	Met	Pro	Phe 1660	Met	Leu	Phe	Asp	Pro 1665	Ser	Asn	Pro
Leu	Leu 1670	Ala	Ser	Gln	Leu	Leu 1675	Ser	Gly	Ala	Ile	Pro 1680	Gln	Ile	Pro
Ala	Ser 1685	Ser	Ala	Thr	Ser	Pro 1690	Ser	Thr	Pro	Thr	Ser 1695	Thr	Met	Asn
Thr	Leu 1700	Lys	Arg	Lys	Leu	Glu 1705	Glu	Lys	Ala	Ser	Ala 1710	Ser	Pro	Gly
Glu	Asn 1715	Asp	Ser	Gly	Thr	Gly 1720	Gly	Glu	Glu	Pro	Gln 1725	Arg	Asp	Lys
Arg	Leu 1730	Arg	Thr	Thr	Ile	Thr 1735	Pro	Glu	Gln	Leu	Glu 1740	Ile	Leu	Tyr
Gln	Lys 1745	Tyr	Leu	Leu	Asp	Ser 1750	Asn	Pro	Thr	Arg	Lys 1755	Met	Leu	Asp
His	Ile 1760	Ala	His	Glu	Val	Gly 1765	Leu	Lys	Lys	Arg	Val 1770	Val	Gln	Val
Trp	Phe 1775	Gln	Asn	Thr	Arg	Ala 1780	Arg	Glu	Arg	Lys	Gly 1785	Gln	Phe	Arg
Ala	Val 1790	Gly	Pro	Ala	Gln	Ala 1795	His	Arg	Arg	Cys	Pro 1800	Phe	Cys	Arg
Ala	Leu 1805	Phe	Lys	Ala	Lys	Thr 1810	Ala	Leu	Glu	Ala	His 1815	Ile	Arg	Ser
Arg	His 1820	Trp	His	Glu	Ala	Lys 1825	Arg	Ala	Gly	Tyr	Asn 1830	Leu	Thr	Leu
Ser	Ala 1835	Met	Leu	Leu	Asp	Cys 1840	Asp	Gly	Gly	Leu	Gln 1845	Met	Lys	Gly
Asp	Ile 1850	Phe	Asp	Gly	Thr	Ser 1855	Phe	Ser	His	Leu	Pro 1860	Pro	Ser	Ser

1 4 3

Ser Asp Gly Gln Gly Val Pro Leu Ser Pro Val Ser Lys Thr Met 1865 1870 Glu Leu Ser Pro Arg Thr Leu Leu Ser Pro Ser Ser Ile Lys Val Glu Gly Ile Glu Asp Phe Glu Ser Pro Ser Met Ser Ser Val Asn 1900 Leu Asn Phe Asp Gln Thr Lys Leu Asp Asn Asp Asp Cys Ser Ser Val Asn Thr Ala Ile Thr Asp Thr Thr Thr Gly Asp Glu Gly Asn Ala Asp Asn Asp Ser Ala Thr Gly Ile Ala Thr Glu Thr Lys Ser 1940 1945 Ser Ser Ala Pro Asn Glu Gly Leu Thr Lys Ala Ala Met Met Ala Met Ser Glu Tyr Glu Asp Arg Leu Ser Ser Gly Leu Val Ser Pro 1970 Ala Pro Ser Phe Tyr Ser Lys Glu Tyr Asp Asn Glu Gly Thr Val 1990 1985 Asp Tyr Ser Glu Thr Ser Ser Leu Ala Asp Pro Cys Ser Pro Ser 2005 Pro Gly Ala Ser Gly Ser Ala Gly Lys Ser Gly Asp Ser Gly Asp Arg Pro Gly Gln Lys Arg Phe Arg Thr Gln Met Thr Asn Leu Gln 2035 Leu Lys Val Leu Lys Ser Cys Phe Asn Asp Tyr Arg Thr Pro Thr 2045 2050 Met Leu Glu Cys Glu Val Leu Gly Asn Asp Ile Gly Leu Pro Lys 2065 Arg Val Val Gln Val Trp Phe Gln Asn Ala Arg Ala Lys Glu Lys 2080 Lys Ser Lys Leu Ser Met Ala Lys His Phe Gly Ile Asn Gln Thr 2100 Ser Tyr Glu Gly Pro Lys Thr Glu Cys Thr Leu Cys Gly Ile Lys 2110 Tyr Ser Ala Arg Leu Ser Val Arg Asp His Ile Phe Ser Gln Gln 2125 His Ile Ser Lys Val Lys Asp Thr Ile Gly Ser Gln Leu Asp Lys Glu Lys Glu Tyr Phe Asp Pro Ala Thr Val Arg Gln Leu Met Ala 2155 Gln Gln Glu Leu Asp Arg Ile Lys Lys Ala Asn Glu Val Leu Gly 2170

Leu Ala Ala Gln Gln Gln Gly Met Phe Asp Asn Thr Pro Leu Gln 2180 2185 Ala Leu Asn Leu Pro Thr Ala Tyr Pro Ala Leu Gln Gly Ile Pro Pro Val Leu Leu Pro Gly Leu Asn Ser Pro Ser Leu Pro Gly Phe 2210 2215 Thr Pro Ser Asn Thr Ala Leu Thr Ser Pro Lys Pro Asn Leu Met Gly Leu Pro Ser Thr Thr Val Pro Ser Pro Gly Leu Pro Thr Ser 2245 Gly Leu Pro Asn Lys Pro Ser Ser Ala Ser Leu Ser Ser Pro Thr 2255 2260 Pro Ala Gln Ala Thr Met Ala Met Gly Pro Gln Gln Pro Pro Gln Gln Gln Gln Gln Gln Gln Pro Gln Val Gln Gln Pro Pro Pro 2285 2290 Pro Pro Ala Ala Gln Pro Pro Pro Thr Pro Gln Leu Pro Leu Gln 2300 2305 Gln Gln Gln Arg Lys Asp Lys Asp Ser Glu Lys Val Lys Glu 2320 Lys Glu Lys Ala His Lys Gly Lys Gly Glu Pro Leu Pro Val Pro 2330 Lys Lys Glu Lys Gly Glu Ala Pro Thr Ala Thr Ala Ala Thr Ile Ser Ala Pro Leu Pro Thr Met Glu Tyr Ala Val Asp Pro Ala Gln 2360 2365 Leu Gln Ala Leu Gln Ala Ala Leu Thr Ser Asp Pro Thr Ala Leu 2380 Leu Thr Ser Gln Phe Leu Pro Tyr Phe Val Pro Gly Phe Ser Pro 2395 Tyr Tyr Ala Pro Gln Ile Pro Gly Ala Leu Gln Ser Gly Tyr Leu 2405 Gln Pro Met Tyr Gly Met Glu Gly Leu Phe Pro Tyr Ser Pro Ala Leu Ser Gln Ala Leu Met Gly Leu Ser Pro Gly Ser Leu Leu Gln 2435 Gln Tyr Gln Gln Tyr Gln Gln Ser Leu Gln Glu Ala Ile Gln Gln Gln Gln Gln Gln Lys Val Gln Gln Gln Gln Pro Lys Ala Ser Gln 2470 2475 Thr Pro Val Pro Pro Gly Ala Pro Ser Pro Asp Lys Asp Pro Ala 2485

Lys	Glu 2495		Pro	Lys	Pro	Glu 2500		Gln	Lys	Asn	Thr 2505	Pro	Arg	Glu
Val	Ser 2510	Pro	Leu	Leu	Pro	Lys 2515	Leu	Pro	Glu	Glu	Pro 2520		Ala	Glu
Ser	Lys 2525	Ser	Ala	Asp	Ser	Leu 2530	Tyr	Asp	Pro	Phe	Ile 2535	Val	Pro	Lys
Val	Gln 2540	Tyr	Lys	Leu	Val	Cys 2545	Arg	Lys	Суз	Gln	Ala 2550	Gly	Phe	Ser
Asp	Glu 2555	Glu	Ala	Ala	Arg	Ser 2560	His	Leu	Lys	Ser	Leu 2565	Cys	Phe	Phe
Gly	Gln 2570	Ser	Val	Val	Asn	Leu 2575	Gln	Glu	Met	Val	Leu 2580	His	Val	Pro
Thr	Gly 2585	Gly	Gly	Gly	Gly	Gly 2590	Ser	Gly	Gly	Gly	Gly 2595	Gly	Gly	Gly
Gly	Gly 2600	Gly	Gly	Gly	Gly	Gly 2605	Gly	Gly	Ser	Tyr	His 2610	Cys	Leu	Ala
Cys	Glu 2615	Ser	Ala	Leu	Cys	Gly 2620	Glu	Glu	Ala	Leu	Ser 2625	Gln	His	Leu
Glu	Ser 2630	Ala	Leu	His	Lys	His 2635	Arg	Thr	Ile	Thr	Arg 2640	Ala	Ala	Arg
Asn	Ala 2645	Lys	Glu	His	Pro	Ser 2650	Leu	Leu	Pro	His	Ser 2655	Ala	Cys	Phe
Pro	Asp 2660	Pro	Ser	Thr	Ala	Ser 2665	Thr	Ser	Gln	Ser	Ala 2670	Ala	His	Ser
Asn	Asp 2675	Ser	Pro	Pro	Pro	Pro 2680	Ser	Ala	Ala	Ala	Pro 2685	Ser	Ser	Ala
Ser	Pro 2690	His	Ala	Ser	Arg	Lys 2695	Ser	Trp	Pro	Gln	Val 2700	Val	Ser	Arg
Ala	Ser 2705	Ala	Ala	Lys	Pro	Pro 2710	Ser	Phe	Pro	Pro	Leu 2715	Ser	Ser	Ser
Ser	Thr 2720	Val	Thr	Ser	Ser	Ser 2725	Cys	Ser	Thr	Ser	Gly 2730	Val	Gln	Pro
Ser	Met 2735	Pro	Thr	Asp	Asp	Tyr 2740	Ser	Glu	Glu	Ser	Asp 2745	Thr	Asp	Leu
Ser	Gln 2750	Lys	Ser	Asp	Gly	Pro 2755	Ala	Ser	Pro	Val	Glu 2760	Gly	Pro	Lys
Asp	Pro 2765	Ser	Суз	Pro	Lys	Asp 2770	Ser	Gly	Leu	Thr	Ser 2775	Val	Gly	Thr
Asp	Thr 2780	Phe	Arg	Leu										
<210	> 15	5												

<210> 15 <211> 30 <212> DNA

garabedian1.1A.ST25.txt

٠.,

£0

5.4

TH

Č11

43

W

Off

0 1.4

```
<213> Artificial
       <220>
       <223> synthetic
      <400> 15
      agatettaag cagaaatgat tgcaccattg
                                                                                     30
      <210> 16
      <211> 28
<212> DNA
      <213> Artificial
      <220>
      <223> synthetic
      <400> 16
      gtagataaag gtgtgtgtca ctgagctc
                                                                                     28
      <210> 17
      <211> 17
<211> 19
<212> DNA
<213> Artificial
      <220>
      <223> synthetic
£M.
   <400> 17
     ttggggttat tcgcaacgg
                                                                                     19
      <210> 18
     <211> 35
      <212> DNA
<213> Artificial
      <220>
<223> synthetic
      <400> 18
      gaactggatc cctgctcata taccttgtct cgatg
                                                                                     35
      <210> 19
<211> 26
<212> DNA
<213> Artificial
      <220>
      <223> synthetic
      <400> 19
      gaactggatc caccaaggac tocatg
                                                                                     26
      <210> 20
      <211> 18
      <212> DNA
      <213> Artificial
      <220>
```

<223> synthetic

<400> 20 eggaattage ttggetge

18